



Our ref: J751

Date: July 28, 2016

APEX EAVES GUTTER BACK GAP OVERFLOW CAPACITY - COMPLIANCE WITH NCC2016 VOLUME THREE

The Apex 115 Quad gutter (115mm wide x 89mm (height - front of gutter) x 64mm (height – back of gutter) was tested by Parametric Developments to establish the flow of water between the gutter back and the fascia when spacers of various thicknesses were placed between them. The table below was extracted from the test report.

BACK GAP OVERFLOW CAPACITIES

(Tables and notes were extracted from research report)

Gutter Back Gap Overflow Capacity (L/s/m)				
AVERAGE BOTTOM GAP (mm) >	1.5	3.0	4.5	6.0
HEAD of WATER (mm)				
4	0.6	0.8	0.8	0.8
6	1.0	1.2	1.3	1.3
8	1.4	1.6	1.7	1.8
10	1.8	2.0	2.1	2.2
12	2.0	2.4	2.5	2.6

Design and Installation Notes:

1. Eaves gutter system must be designed and installed in accordance with AS/NZS 3500.3.
2. Maximum spacing of gutter clips is 1200 mm.
3. The Average Bottom Gap between the full gutter and fascia must be declared by the manufacturer.
4. Roofing membranes must be trimmed or terminated above the gutter back.
5. Vertical distance from top of gutter back to top of fascia must be not less than the head of water value plus a safety margin of:
 - a. 3 mm at the high point of a gutter with slope $\geq 1:500$ and
 - b. 6 mm at any point of a gutter with slope $< 1:500$.
6. Interpolation within the table is permitted.

OBSERVATION AND CONCLUSION MADE FROM TEST RESULTS

The flow over the back of the gutter is dependent on the average bottom gap between the gutter back and the fascia and on the head of water.

The overflow capacities in the table can be used for all Apex residential eaves gutters provided the average bottom back gaps are achieved. The required average bottom back gap can be achieved by using by using spacers of suitable thickness.



CERTIFICATION

I certify that the overflow capacity over the back of the gutter with an average bottom back gap of 1.875mm is 1.2 L/s/m subject to the following conditions:

1. The design and installation notes in the table are complied with. However, the maximum centres between the back gap spacers should not exceed 600mm.
2. The minimum distance from the top of the fascia and the top of the gutter back should be 10mm or more.
3. Apex is responsible for providing spacers of the right thickness to obtain an average bottom back gap of 1.875mm or more.

I also certify that the use of suitable back gap spacers to achieve the required overflow capacity is compliant with the requirements of Clause A2.2 of NCC2016 Volume three (Evidence of suitability).

BASIS OF CERTIFICATION

The following documents were referred to in making this this certification:

1. AS/NZS 3500.3
2. NCC2016 Volume Three – Plumbing Code of Australia
3. Research Report – Investigation of Back Gap Overflow Capacity of Residential Eaves Gutters. Prepared for the Australian Steel Institute Ltd. Prepared by Cam Seccombe and Mike Kelly. Report Date – 31st May 2016.

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